

## CLAIMS

We claim:

1. A method of reducing one or more deleterious side effect of radiation treatment in a subject undergoing radiation treatment, comprising administering to said subject a side-effect reducing amount of a selective cyclooxygenase-2 inhibitor.
2. The method of claim 1, wherein the cyclooxygenase-2 inhibitor is rofecoxib.
3. The method of claim 1, wherein the cyclooxygenase-2 inhibitor is celecoxib.
4. The method of claim 1, wherein the reduced side effect comprises an acute mucosal effect of radiation on the urinary or gastrointestinal tract.
5. The method of claim 1, wherein the side effect reduced comprises fatigue.
6. The method of claim 1, wherein the reduced side effect comprises a disorder selected from the group consisting of diarrhea, rectal bleeding, proctitis, and sigmoiditis.
7. The method of claim 1, wherein the reduced side effect comprises urinary frequency, prostatitis, or cystitis.
8. The method of claim 1, wherein the radiation treatment is directed outside the pelvis.
9. The method of claim 1, wherein the reduced side effect comprises dermatitis.